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EXAMINER	
JORGENSEN, LELAND R	
ART UNIT	**PAPER NUMBER**
2675	4

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,107	CRAWFORD, PETER JAMES	
	Examiner	Art Unit	
	Leland R. Jorgensen	2675	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 3 – 19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 3 and 17 describe the user provides input to the x-y input device with the pivotal movement of the thumb. Such a movement would be along one axis only, presumably the x direction. An x-y input device would require movement along two axis, both the y and the x.

Claims 4 – 16 are rejected as dependant on rejected claim 3. Claims 18 and 19 are rejected as dependant on rejected claim 17.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 describes the height of the second segment is less that the height of the first

segment. It is unclear from where these heights are measured and thus there is not enough information to determine which has the higher height.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hamling, USPN 5,648,798.

Claim 1

Hamlin teaches an input device for receiving an x-y input and input from at least one input actuator [buttons 204] on the input device wherein the device is adapted to allow a user to use the device while holding the device in the user's hand with the hand in an open-grip posture with the thumb pointing forward at the top. Hamlin, col. 1, line 66 – col. 2, line 11; col. 3, lines 37 – 61; and figures 2 and 3. Hamlin teaches that the device functions as a mouse or trackball. Thus, it is inherent that the input device receives x-y input.

7. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Leiper, USPN 6,184,862 B1.

Claim 17

Leiper teaches an input device for a computer comprising touch pad sensor positioned related to the locations on the housing intended for the user's thumb and fingers such that the user provides input to the touch pad with the thumb. It is inherent that a touch pad receives x-y input. Leiper, col. 5, lines 42 – 52; and figure 1.

8. Claims 20 – 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakazawa et al., USPN 6,492,633 B2.

Claim 20

Nakazawa teaches an input device with a zero force touch switch. Nakazawa, col. 1, lines 13 – 19. The device has a light beam P1 – P4 11 traveling from a light source [light emitting elements 11a and 11b] to a light sensor [light receiving signal elements 13a and 13b] across a channel [Area defined by recurrence reflection sheets 7 and the display screen 10. Nakazawa, col. 4, lines 39 – 51; col. 5, line 64 – col. 6, line 49; and figures 1 and 2. The light sensor is connected to circuitry 3a to detect the presence of an object breaking the light beam in the channel. Nakazawa, col. 5, lines 22 – 49; and figures 1 and 4. Nakazawa teaches a means for moving the position of the light beam in the channel [polygon mirrors 16a and 16b]. Nakazawa, col. 5, lines 13 – 20; and figures 1 and 2.

Claim 21

Nakazawa teaches that the light source and light sensor move within housing in response to input transmitted from outside the housing. Nakazawa, col. 6, line 58 – col. 7, line 17; and figure 3.

Claim 22

Nakazawa teaches a first and second light source 1a and 1b each having a first and second light source [light emitting elements 11a and 11b] and a first and second light sensor [light receiving signal elements 13a and 13b] for generating a first and second light beam. Nakazawa, figure 1 and figure 2. A single input transmitted from outside the housing moves both the first and second light source. Nakazawa, figure 3.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Gasca, USPN Des. 381,970.

Claim 2

Claim 2 adds a device housing with an input sensor to receive input from the user's thumb such that placement of the user's thumb in a position to provide input causes an interaction between the user's hand and a palm fin portion of the housing that contacts the palm of the user, adapted to interact with the length of a user's thumb such that a user with a large hand and long thumb grasps a first segment of the palm fin and a user with a small hand and short thumb grasps a second segment of the palm fin wherein the height of the palm fin at the

midpoint of the second segment is less than the height of the palm fin at the midpoint of the first segment.

Hamling teaches the input sensor [track ball 206] to receive input from the user's thumb. Hamling, col. 3, lines 54 – 61; and figure 3. Hamling also teaches a support pad 110 upon which the user may rest his hand. Hamling, col. 3, lines 16 – 18; and figure 2. "Thus, with the side of a user's hand, for example a right handed user as shown in FIG. 2, resting in the neutral position on support pad 110, the shape and positioning of upper housing 200 comfortably aligns the fingers of the hand with the three buttons 204." Hamling, col. 3, lines 37 – 41. This causes the thumb to rest comfortably on the track ball 206. Hamlin col. 3, lines 56 – 58. "Support pad 110 is thus shaped to hold the side of the user's hand to couple movement of the hand with movement of the entire invention." Hamling, col. 4, lines 17 – 20.

Hamling, however, does not specifically teach a fin.

Gasca teaches a fin. The fin appears to be adapted to interact with the length of a user's thumb such that a user with a large hand and long thumb grasps a first segment of the palm fin and a user with a small hand and short thumb grasps a second segment of the palm fin wherein the height of the palm fin at the midpoint of the second segment is less than the height of the palm fin at the midpoint of the first segment. Gasca, figures 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the fin as shown by Gasca with the input device as taught by Hamling to produce an input device to give additional support to the hand.

11. Claims 3, 4, 6, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Leiper, and Adams et al., USPN 5,990,871.

Claim 3

Hamlin teaches an input device for receiving an x-y input and input from at least one input actuator [buttons 204] on the input device. Housing 100 and 200 is adapted to fit within the hand of a user. The housing has a main body section 200 with a long axis substantially parallel to a line in the body of a user grasping the pointing device running through the arm of the user to the tip of the user's extended thumb. Hamlin, col. 1, line 66 – col. 2, line 11; col. 3, lines 37 – 61; and figures 2 and 3. Hamlin teaches that the device functions as a mouse or trackball. Thus, it is inherent that the input device receives x-y input. The housing has a platform [sloped surface 205] for containment of an x-y input device [track ball 206]. The platform is substantially perpendicular to the long axis of the main body section. The track ball is the end of the input device distal to the user's wrist such that x-y input is provided to the track ball by pivotal movements of the thumb. Hamling, col. 3, lines 51 - 61; and figure 3.

Claim 3 describes channels for the user's index and middle fingers. Hamlin shows buttons for both the user's index finger and the middle finger with the user's index and middle fingers placed below and substantially orthogonal to the orientation of the user's thumb while the user is grasping the device. Hamling, figure 3. Hamlin, however, does not specifically show that the housing has a channel for placement of the user's index finger and a channel for placement of the user's middle finger.

Leiper teaches a housing for a computer input device with a channel for placement of the user's index finger and a channel for placement of the user's middle finger. The channels are

positioned to place the user's index and middle fingers below and substantially orthogonal to the orientation of the user's thumb while the user is grasping the device. Leiper, figure 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the channels as shown by Leiper with the input device as taught by Hamling. Leiper invites such combination by teaching, after explaining the need for its invention,

> It is an object of the invention to provide such an apparatus that can be operated single handedly. It is an object of the invention to provide such a system which permits the diagnosing physician to move around in a work area to retrieve reference works, view past studies, or do other things while at the same time continuing with the medical study of the images.

Leiper, col. 2, lines 36 – 42. Although Leiper focus on an input device for physician, Leiper further teaches,

> Although the foregoing description has described an application of a combined image review/voice dictation function in a controller 20 operating in conjunction with a medical interpretation unit, the present invention has broader application as well. It may be implemented for example in a legal or business environment.

Leiper, col. 13, lines 61 – 65. Leiper teaches pressure switch 44 and buttons 46 and 48 on the upper surface 29 of controller 20. Leiper, col. 5, lines 12 – 19. Leiper then specifically invites a combination with Hamling by teaching,

> It is to be appreciated that other switch elements may be substituted for the preferred switch embodiments described above in connection with the controller 20. For example, in an alternative embodiment, the functions of pressure switch 44 and left and tight toss buttons 46 and 48 described below may be implemented in a joystick type control that is movable from front to back and left to right, or by a four way rocker switch, or a thumbwheel, or a tiny trackball, or a sensitive touchpad, or set of directional arrow keys located in the controller 20. Such variations are all within the scope of the invention.

Leiper, col. 5, lines 42 – 52.

Claim 3 also notes that the housing is adapted to fit within the hand of a user while the user's hand is resting on the user's lap. It is inherent that the device as taught by Hamling and Leiper would allow the device to be used while the user's hand is resting on the user's lap. It is also obvious to produce a device allowing the device to be used while the user's hand is resting on the user's lap in view of Adams.

Adams teaches a input device that may be used while the user's hand is resting on the user's lap. Adams, col. 5, lines 17 – 24, 56 – 57; and figure 5. Adams invites such combination by teaching,

> Many of the currently available pointing devices are designed for adults. As such, a child may have difficulty positioning the cursor and then depressing the keys; a child may not be able to control the movement of the pointing device with the level of precision typically required to accurately position the cursor; or a child may not be able to reach the desktop to move and use the pointing device. A need therefore exists for a pointing device that is easy for children to use.

Adams, col. 1, lines 33 – 40. Adams adds,

> All of the design features noted above work together in a preferred embodiment to provide physical and visual cues for a child user to orient, grasp, and use the pointing device in a manner that is suitable to a child's hand size, degree of fine motor coordination, and postural needs.

Adams, col. 2, lines 20 – 24.

Claim 4

Hamling shows that the x-y input is provided by the thumb tip of the user. Hamling, figure 3.

Claim 6

Leiper teaches that the input from the user's thumb is provided to a touchpad. Leiper, col. 5, lines 42 – 52. A touch pad is a zero force touch switch.

Claim 12

Leiper teaches that the input from the user's thumb is provided to a touchpad. Leiper, col. 5, lines 42 – 52.

Claim 14

Hamling teaches that the x-y input from the user's thumb is provided to a track ball 206. Hamling, col. 3, lines 51 - 61; and figure 3.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Leiper and Adams et al. as applied to claim 3 above, and further in view of Howell et al., USPN 6,096,984.

Claim 5

Claim 5 adds that the x-y input device is curved to approximate the arc of travel of the thumb tip of the thumb during pivotal travel while the user is grasping the input device.

Neither Hamling, Leiper, nor Adams teach that the x-y input device is curved.

Howell teaches a touchpad having an adjustable curved surface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the adjustable curved surface as taught by Howell with the input device as taught by Hamling, Leiper, and Adams to produce a input device having the x-y input device curved to approximate the arc of travel of the thumb tip of the thumb during pivotal travel. Howell invites such combination by teaching,

> One problem with touchpads is that they require a wider range of finger motion to operate than a track ball. A track ball requires a minimal amount of finger movement, approximately a 1/4 of an inch circle around the device. With a touchpad however, the user is required to incorporate the full width and length of

> the pad, approximately 11/2 to 2 inches, to move the cursor. With a flat touch pad, this increased area of coverage by the finger may require movement of the entire hand and arm to operate the touchpad. The increase in arm movement of the computer causes a slower response time and a definite break in the typing rhythm.
>
> Although touchpads are usually flat or planar, touchpads can also be non-planar as well. An outwardly non-planar operating surface advantageously provides the computer system with an input device that protrudes outward away from the base portion, thereby minimizing the area on the top surface of the base portion needed for the touch pad. Also, the outwardly non-planar surface advantageously provides a cursor moving and input device with better ergonomics where the user has a smaller area to traverse the entire pad.
>
> Another advantage of this outwardly non-planar operating surface is that it provides the user with a partially vertical operating surface. This partially vertically surface enables the user to move the cursor with a partial vertical motion of a finger instead of with only a horizontal motion as with a non-planar surface. This partially vertical motion for cursor control provides for better ergonomics. In addition, a protruding operating surface enables the cursor to be controlled with a partially vertical motion from a side of the touch pad where such a motion is easier to make while typing than a purely horizontal motion with a flat operating surface. Thus, there is less hand movement required to contact the operating pad.
>
> Inwardly non-planar touchpads also provide advantages not available with planar touch pads. Because the human figure rotates on a joint, the natural movement of the figure is in an inward arching motion. Thus, a touchpad with an operating surface that follows this motion would require less hand movement in controlling a cursor.

Howell, col. 2, lines 25 – 58.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Leiper and Adams et al. as applied to claim 3 and 6 above, and further in view of Plesko, USPN 6,057,554.

Claim 7

Claim 7 adds that the zero force touch switch detects contact of the user's finger. Leiper teaches that the input from the user's thumb is provided to a touchpad. Leiper, col. 5, lines 42 – 52. A touch pad is a zero force touch switch.

Neither Hamling, Leiper, nor Adams specifically teach such a switch for a finger.

Plesko teaches a zero force switch. Plesko, col. 7, lines 3 – 37. "No force or pressure need be applied by digit 70 to effect on/off actuation of reflective switch element 57." Plesko, col. 7, lines 7 – 9.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the zero force switch as taught by Plesko with the input device taught by Hamling, Leiper, and Adams. Plesko invites such combination by teaching,

> Several important features of the present invention should now be pointed out.
>
> Use of the reflective switch described herein permits the housing of a scan system to be substantially sealed against contamination since no mechanical coupling is needed between the housing and the inside of the scan system.
>
> The need to push or squeeze fatigue producing spring loaded switches as are common on prior art scanners is eliminated by the present invention. Furthermore, miss registration of the scan beam with respect to a target due to the application of force or impact from mechanical switching is eliminated in low mass scan equipment.
>
> In low mass portable and especially in hand holdable housings such as wand style housings, card housings, pocket calculator size housings or finger mounted housings, the pressing or pushing of mechanical switches is replaced by more ergonomic methods. Only a simple slipping forward of an index finger, or sliding motion of a thumb or other digit is required by various embodiments of the present invention and has been found to be much easier and more efficient than actuating the mechanical detent type switches or triggers found in prior art scanners.

> Assembly of the reflective object switch or acoustic switches described herein is easier and less expensive than assembly of bulky prior art trigger mechanisms which require numerous special parts including springs, levers, pivot mounting features, openings in the housing, mechanical switches, stops to prevent over travel or damage to the mechanical switch and the like. The non-mechanical switch of the present invention is simply soldered to the circuit board--preferably automatically machine populated and soldered. The whole scanner assembly is then simply closed or sealed in a housing.

Plesko, col. 3, line 48 – col. 4, line 13.

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Leiper and Adams et al. as applied to claim 3 and 6 above, and further in view of Nakazawa.

Claim 8

Claim 8 adds that the zero force touch switch detects the interruption of a beam of light. Leiper teaches that the input from the user's thumb is provided to a touchpad. Leiper, col. 5, lines 42 – 52. A touch pad is a zero force touch switch.

Neither Hamling, Leiper, nor Adams specifically teach that the zero force touch switch detects the interruption of a beam of light.

Nakazawa teaches a touch pad that detects the interruption of a beam of light. Nakazawa, col. 5, lines 22 – 49; and figure 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the optical touch pad as taught by Nakazawa with the input device taught by Hamling, Leiper, and Adams. Nakazawa invites such combination by teaching,

> A main object of the present invention is to provide an optical scanning-type touch panel, capable of accurately measuring a scanning light cut-of region and thereby calculating the correct position or size of an indicator, by switching a threshold value with respect to an output of a light receiving element for judging

> whether a region is a cut-off region, in a plurality of stages according to the scanning angle.

Nakazawa, col. 2, lines 36 – 44. Nakazawa concludes,

> As described above, in the optical scanning-type touch panel of the present invention, since the threshold value used as a criterion in judging whether a cut-off region is formed by the indicator is varied according to the scanning angle, it is possible to eliminate the effect of the directly incident light on the light receiving elements and calculate the accurate cut-off region, and thereby providing highly accurate calculation results for the position and size of the indicator.

Nakazawa, col. 12, lines 34 – 42.

15. Claim 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamling in view of Leiper and Adams et al. as applied to claim 3 above, and further in view of Logan et al., USPN 5,327,161.

Claim 15

Claim 15 adds that the device senses the thumb at a perimeter input position and communicates to software the user's request for x-y movement of the object image under software control until the user's thumb ceases to be detected at the perimeter position.

Neither Hamling, Leiper, nor Adams teach such.

Logan teaches sensing a finger or thumb at a perimeter input position and communicating to software the user's request for x-y movement of the object image under software control until the user's thumb ceases to be detected at the perimeter position. Logan, figures 3A and 3B.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the perimeter input position detector as taught by Logan with the input device as taught by Hamling, Leiper, and Adams. Logan invites such combination by teaching,

> It is therefore an object of this invention to provide a system and method for emulating a mouse input device with a touchpad input device in which the cursor may be moved long distances with a single stroke.
>
> It is a further object of this invention to provide such a system and method in which the cursor may be dragged long distances without holding the drag button down.
>
> It is a further object of this invention to provide such a system and method in which the cursor may be dragged without maintaining finger contact with the touchpad device.
>
> This invention results from the realization that relative positioning touchpad devices can be dramatically improved to allow long distance cursor movement in or out of drag mode by maintaining the cursor movement in the same relative direction as a touchpad stroke after the stroke is terminated.
>
> This invention features a system and method for emulating a mouse input device with a touchpad input device in which the cursor movement continues after completion of a touchpad swipe whether in or out of the drag mode, to allow the cursor to be exactly and quickly positioned.

Logan, col. 1, line 65 – col. 2, line 21.

Claim 16

Logan, in figure 6, shows that the x-y input from the user's thumb is provided to a touchpad and the perimeter input positions of the touchpad are actuated by pressing tactile cursor movement buttons so as to reduce accidental input of a perimeter input command.

16. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leiper as applied to claim 17 above and further in view of Plesko.

Claims 18 and 19

Leiper teaches a scroll select touch switch [pressure switch 44] positioned to be actuated by a movement of the thumb. Leiper teaches a trigger switch 42 positioned at the bottom of a

channel intended to receive and support the index finger of the user such that the movement of the index finger tip of a supported channeled index finger actuates the trigger switch. Leiper, figure 2. Control circuitry interprets the input from the scroll select touch switch and the zero force touch switch in the index finger channel wherein the circuitry interprets the activation of the zero force touch switch after the onset of a maintained activation of the scroll select touch switch as a request for continued scrolling of a displayed image on the computer's image display. Leiper, col. 8, line 67 – col. 9, line 11.

Leiper does not teach that the trigger switch is a zero force touch switch.

Plesko teaches a zero force switch. Plesko, col. 7, lines 3 – 37. "No force or pressure need be applied by digit 70 to effect on/off actuation of reflective switch element 57." Plesko, col. 7, lines 7 – 9.

For the reasons given in the discussion about claim 7 above, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the zero force switch as taught by Plesko with the input device taught by Leiper.

Allowable Subject Matter

17. Claims 9 - 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: No prior art describes the adjustable placement of the beam of light to allow adjustments to accommodate variations in finger length.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stroop, USPN 5,563,628, teaches a thumb operated cursor controller.

Mailman, USPN 6,232,956 B1, teaches OHAI technology interface.

Holmes, USPN 6,222,526 B1, teaches a hand held ergonomic computer controller.

Goto, USPN 5,832,323, teaches a thumb tip touch screen.

Whiteing, USPN Des. 396,034, teaches a fin on a computer mouse.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703-305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, telephone number (703) 306-0377.

lrj

STEVEN SARAS
SUPERVISORY PATENT EXAMINER
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